

SEQUENCE LISTING

<110> Commonwealth Scientific and Industrial Rsrch. Org.

<120> MALATHION CARBOXYLESTERASE

<130> Attorney Docket No. 50179-051

<140> 09/068,960

<141> 1998-06-20

<150> PCT/AU96/00746

<151> 1996-11-22

<150> AU 6751

<151> 1995-11-23

<160> (43) ✓

<170> PatentIn Ver. 2.0

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<212> DNA

<213> Lucilia cuprina

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· 212> PRT

· 213> Lucilia cuprina

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Val Val Ala Glu Thr Glu Tyr Gly Lys Val Lys Gly Val Lys Arg Leu
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Thr Val Tyr Asp Asp Ser Tyr Tyr Ser Phe Glu Gly Ile Pro Tyr Ala
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Gln Pro Pro Val Gly Glu Leu Arg Phe Lys Ala Pro Gln Arg Pro Thr
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Gln Val Asp Phe Ile Thr Gly Lys Val Cys Gly Ser Glu Asp Cys Leu
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Val Leu Val Tyr Ile His Gly Gly Phe Ile Ile Gly Glu Asn His
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Arg Asp Met Tyr Gly Pro Asp Tyr Phe Ile Lys Lys Asp Val Val Leu
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Ile Asn Ile Gln Tyr Arg Leu Gly Ala Leu Gly Phe Leu Ser Leu Asn
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Ser Glu Asp Leu Asn Val Pro Gly Asn Ala Gly Leu Lys Asp Gln Val
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Met Ala Leu Arg Trp Ile Lys Asn Asn Cys Ala Asn Phe Gly Gly Asn
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Pro Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Ala Ala Ser Thr
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His Tyr Met Met Leu Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
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Ile Leu Met Ser Gly Asn Ala Ile Cys Pro Leu Ala Asn Thr Gln Cys
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Gln His Arg Ala Phe Thr Leu Ala Lys Leu Ala Gly Tyr Lys Gly Glu
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Asp Asn Asp Lys Asp Val Leu Glu Phe Leu Met Lys Ala Lys Pro Gln
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Asn Lys Val Met Phe Pro Phe Gly Pro Thr Val Glu Pro Tyr Gln Thr
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Ala Asp Cys Val Leu Pro Lys His Pro Arg Glu Met Val Lys Thr Ala
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Trp Gly Asn Ser Ile Pro Thr Met Met Gly Asn Thr Ser Tyr Glu Gly
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Leu Phe Phe Thr Ser Ile Leu Lys Gln Met Pro Met Leu Val Lys Glu
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Leu Glu Thr Cys Val Asn Phe Val Pro Ser Glu Leu Ala Asp Ala Glu
370 375 380

Arg Thr Ala Pro Glu Thr Leu Glu Met Gly Ala Lys Ile Lys Lys Ala
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His Val Thr Gly Glu Thr Pro Thr Ala Asp Asn Phe Met Asp Leu Cys
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Ser His Ile Tyr Phe Trp Phe Pro Met His Arg Leu Leu Gln Leu Arg
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Phe Asn His Thr Ser Gly Thr Pro Val Tyr Leu Tyr Arg Phe Asp Phe
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Asn Gln Leu Ala Lys Arg Met Pro Lys Glu Ser Arg Glu Tyr Lys Thr
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Ile Glu Arg Met Thr Gly Ile Trp Ile Gln Phe Ala Thr Thr Gly Asn
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Pro Tyr Ser Asn Glu Ile Glu Gly Met Glu Asn Val Ser Trp Asp Pro
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4213. *Lucilia cuprina*

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Thr Val Tyr Asp Asp Ser Tyr Tyr Ser Phe Glu Gly Ile Pro Tyr Ala
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Pro Trp Asp Gly Val Arg Asp Cys Cys Asn His Lys Asp Lys Ser Val
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Gln Val Asp Phe Ile Thr Gly Lys Val Cys Gly Ser Glu Asp Cys Leu
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'Val Leu Val Tyr Ile His Gly Gly Gly Phe Ile Gly Glu Asn His
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Arg Asp Met Tyr Gly Pro Asp Tyr Phe Ile Lys Lys Asp Val Val Leu
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Ile Asn Ile Gln Tyr Arg Leu Gly Ala Leu Gly Phe Leu Ser Leu Asn
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Ser Glu Asp Leu Asn Val Pro Gly Asn Ala Gly Leu Lys Asp Gln Val
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Met Ala Leu Arg Trp Ile Lys Asn Asn Cys Ala Asn Phe Gly Gly Asn
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Pro Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Ala Ala Ser Thr
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His Tyr Met Met Leu Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
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Gln His Arg Ala Phe Thr Leu Ala Lys Leu Ala Gly Tyr Lys Gly Glu
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Asp Asn Asp Lys Asp Val Leu Glu Phe Leu Met Lys Ala Lys Pro Gln
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Asp Leu Ile Lys Leu Glu Glu Lys Val Leu Thr Leu Glu Glu Arg Thr
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Asn Lys Val Met Phe Pro Phe Gly Pro Thr Val Glu Pro Tyr Gln Thr
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Trp Gly Asn Ser Ile Pro Thr Met Met Gly Asn Thr Ser Tyr Glu Gly
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Leu Phe Phe Thr Ser Ile Leu Lys Gln Met Pro Met Leu Val Lys Glu
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Leu Glu Thr Cys Val Asn Phe Val Pro Ser Glu Leu Ala Asp Ala Glu
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Arg Thr Ala Pro Glu Thr Leu Glu Met Gly Ala Lys Ile Lys Lys Ala
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His Val Thr Gly Glu Thr Pro Thr Ala Asp Asn Phe Met Asp Leu Cys

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Asp Ser Glu Asp Leu Ile Asn Pro Tyr Arg Ile Met Arg Ser Gly Arg
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Gly Val Lys Gly Val Ser His Ala Asp Glu Leu Thr Tyr Phe Phe Trp
 465 470 475 480

Asn Gln Leu Ala Lys Arg Met Pro Lys Glu Ser Arg Glu Tyr Lys Thr
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Ile Glu Arg Met Thr Gly Ile Trp Ile Gln Phe Ala Thr Thr Gly Asn
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Pro Tyr Ser Asn Glu Ile Glu Gly Met Glu Asn Val Ser Trp Asp Pro
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• 212 • PRT

4213> *Lucilia cuprina*

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Val Val Ala Glu Thr Glu Tyr Gly Lys Val Lys Gly Val Lys Arg Leu
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Thr Val Tyr Asp Asp Ser Tyr Tyr Ser Phe Glu Gly Ile Pro Tyr Ala
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Gln Pro Pro Val Gly Glu Leu Arg Phe Lys Ala Pro Gln Arg Pro Thr
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Pro Trp Asp Gly Val Arg Asp Cys Cys Asn His Lys Asp Lys Ser Val
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Gln Val Asp Phe Ile Thr Gly Lys Val Cys Gly Ser Glu Asp Cys Leu
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Met Ala Leu Arg Trp Ile Lys Asn Asn Cys Ala Asn Phe Gly Gly Asn
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Pro Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Ala Ala Ser Thr
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His Tyr Met Met Leu Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
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Trp Gly Asn Ser Ile Pro Thr Met Met Gly Asn Thr Ser Tyr Glu Gly
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Arg Thr Ala Pro Glu Thr Leu Glu Met Gly Ala Lys Ile Lys Lys Ala
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His Val Thr Gly Glu Thr Pro Thr Ala Asp Asn Phe Met Asp Leu Cys
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Phe Asn His Thr Ser Gly Thr Pro Val Tyr Leu Tyr Arg Phe Asp Phe
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Asn Gln Leu Ala Lys Arg Met Pro Lys Glu Ser Arg Glu Tyr Lys Thr
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Ile Glu Arg Met Thr Gly Ile Trp Ile Gln Phe Ala Thr Thr Gly Asn
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Val Val Ala Glu Thr Glu Tyr Gly Lys Val Lys Gly Val Lys Arg Leu
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Thr Val Tyr Asp Asp Ser Tyr Tyr Ser Phe Glu Gly Ile Pro Tyr Ala
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Gln Pro Pro Val Gly Glu Leu Arg Phe Lys Ala Pro Gln Arg Pro Thr
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Pro Trp Asp Gly Val Arg Asp Cys Cys Asn His Lys Asp Lys Ser Val
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Gln Val Asp Phe Ile Thr Gly Lys Val Cys Gly Ser Glu Asp Cys Leu
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Tyr Leu Ser Val Tyr Thr Asn Asn Leu Asn Pro Glu Thr Lys Arg Pro
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Val Leu Val Tyr Ile His Gly Gly Phe Ile Ile Gly Glu Asn His
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Arg Asp Met Tyr Gly Pro Asp Tyr Phe Ile Lys Lys Asp Val Val Leu
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Ile Asn Ile Gln Tyr Arg Leu Gly Ala Leu Gly Phe Leu Ser Leu Asn
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Ser Glu Asp Leu Asn Val Pro Gly Asn Ala Gly Leu Lys Asp Gln Val
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Met Ala Leu Arg Trp Ile Lys Asn Asn Cys Ala Asn Phe Gly Gly Asn
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Pro Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Ala Ala Ser Thr
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His Tyr Met Met Leu Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
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Ile Leu Met Ser Gly Asn Ala Ile Cys Pro Trp Ala Asn Thr Gln Cys
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Gln His Arg Ala Phe Thr Leu Ala Lys Leu Ala Gly Tyr Lys Gly Glu
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Asp Asn Asp Lys Asp Val Leu Glu Phe Leu Met Lys Ala Lys Pro Gln
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Asn Lys Val Met Phe Pro Phe Gly Pro Thr Val Glu Pro Tyr Gln Thr
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Trp Gly Asn Ser Ile Pro Thr Met Met Gly Asn Thr Ser Tyr Glu Gly

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Leu Phe Thr Ser Ile Leu Lys Gln Met Pro Met Leu Val Lys Glu
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Arg Thr Ala Pro Glu Thr Leu Glu Met Gly Ala Lys Ile Lys Lys Ala
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His Val Thr Gly Glu Thr Pro Thr Ala Asp Asn Phe Met Asp Leu Cys
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Ser His Ile Tyr Phe Trp Phe Pro Met His Arg Leu Leu Gln Leu Arg
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Phe Asn His Thr Ser Gly Thr Pro Val Tyr Leu Tyr Arg Phe Asp Phe
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Asp Ser Glu Asp Leu Ile Asn Pro Tyr Arg Ile Met Arg Ser Gly Arg
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Gly Val Lys Gly Val Ser His Ala Asp Glu Leu Thr Tyr Phe Phe Trp
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Asn Gln Leu Ala Lys Arg Met Pro Lys Glu Ser Arg Glu Tyr Lys Thr
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Ile Glu Arg Met Thr Gly Ile Trp Ile Gln Phe Ala Thr Thr Gly Asn
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Pro Tyr Ser Asn Glu Ile Glu Gly Met Glu Asn Val Ser Trp Asp Pro
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catgttacatg gagaacaccc aacagctgtat aattttatgg atcttgcctc tcacatctat 1260
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actgggtatata ggtatataattt tgccaccact ggtatccctt atagcaatga aattgaagg 1560
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<210> 10

• 211 > 570

•212• PRT

1213. *Lucilia cuprina*

<400> 10

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Cys Ile Glu Asn Lys Phe Leu Asn Tyr Arg Leu Thr Thr Asn Glu Thr
20 25 30

Val Val Ala Glu Thr Glu Tyr Gly Lys Val Lys Gly Val Lys Arg Leu
35 40 45

Thr Val Tyr Asp Asp Ser Tyr Tyr Ser Phe Glu Gly Ile Pro Tyr Ala
50 55 60

Gln Pro Pro Val Gly Glu Leu Arg Phe Lys Ala Pro Gln Arg Pro Thr
65 70 75 80

Pro Trp Asp Gly Val Arg Asp Cys Cys Asn His Lys Asp Lys Ser Val
85 90 95

Gln Val Asp Phe Ile Thr Gly Lys Val Cys Gly Ser Glu Asp Cys Leu
100 105 110

Tyr Leu Ser Val Tyr Thr Asn Asn Leu Asn Pro Glu Thr Lys Arg Pro
 115 120 125

Val Leu Val Tyr Ile His Gly Gly Gly Phe Ile Ile Gly Glu Asn His
130 135 140

Arg Asp Met Tyr Gly Pro Asp Tyr Phe Ile Lys Lys Asp Val Val Leu
 145 150 155 160

Ile Asn Ile Gln Tyr Arg Leu Gly Ala Leu Gly Phe Leu Ser Leu Asn
165 170 175

Ser Glu Asp Leu Asn Val Pro Gly Asn Ala Gly Leu Lys Asp Gln Val
180 185 190

Met Ala Leu Arg Trp Ile Lys Asn Asn Cys Ala Asn Phe Gly Gly Asn
195 200 205

Pro Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Ala Ala Ser Thr
210 215 220

His Tyr Met Met Leu Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
225 230 235 240

Ile Leu Met Ser Gly Asn Ala Ile Cys Pro Leu Ala Asn Thr Gln Cys
245 250 255

Gln His Arg Ala Phe Thr Leu Ala Lys Leu Ala Gly Tyr Lys Gly Glu
260 265 270

Asp Asn Asp Lys Asp Val Leu Glu Phe Leu Met Lys Ala Lys Pro Gln
275 280 285

Asp Leu Ile Lys Leu Glu Glu Lys Val Leu Thr Leu Glu Glu Arg Thr
290 295 300

Asn Lys Val Met Phe Pro Phe Gly Pro Thr Val Glu Pro Tyr Gln Thr
305 310 315 320

Ala Asp Cys Val Leu Pro Lys His Pro Arg Glu Met Val Lys Thr Ala
325 330 335

Trp Gly Asn Ser Ile Pro Thr Met Met Gly Asn Thr Ser Tyr Glu Gly
340 345 350

Leu Phe Phe Thr Ser Ile Leu Lys Gln Met Pro Met Leu Val Lys Glu
355 360 365

Leu Glu Thr Cys Val Asn Phe Val Pro Ser Glu Leu Ala Asp Ala Glu
370 375 380

Arg Thr Ala Pro Glu Thr Leu Glu Met Gly Ala Lys Ile Lys Lys Ala
385 390 395 400

His Val Thr Gly Glu Thr Pro Thr Ala Asp Asn Phe Met Asp Leu Cys
405 410 415

Ser His Ile Tyr Phe Trp Phe Pro Met His Arg Leu Leu Gln Leu Arg
420 425 430

Phe Asn His Thr Ser Gly Thr Pro Val Tyr Leu Tyr Arg Phe Asp Phe
435 440 445

Asp Ser Glu Asp Leu Ile Asn Pro Tyr Arg Ile Met Arg Ser Gly Arg
450 455 460

Gly Val Lys Gly Val Ser His Ala Asp Glu Leu Thr Tyr Phe Phe Trp
465 470 475 480

' Asn Gln Leu Ala Lys Arg Met Pro Lys Glu Ser Arg Glu Tyr Lys Thr
485 490 495

' Ile Glu Arg Met Thr Gly Ile Trp Ile Gln Phe Ala Thr Thr Gly Asn
500 505 510

Pro Tyr Ser Asn Glu Ile Glu Gly Met Glu Asn Val Ser Trp Asp Pro
515 520 525

Ile Lys Lys Ser Asp Glu Val Tyr Lys Cys Leu Asn Ile Ser Asp Glu
530 535 540

Leu Lys Met Ile Asp Val Pro Glu Met Asp Lys Ile Lys Gln Trp Glu
545 550 555 560

Ser Met Phe Glu Lys His Arg Asp Leu Phe
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<210> 11

<211> P6

<212> DNA

<213> Lucilia cuprina

<400> 11

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<210> 12

<211> 28

<212> DNA

<213> Lucilia cuprina

<400> 12

ctaaaaataaaa tctctatgtt tttcaaac 28

<210> 13

<211> 570

<212> PRT

<213> Musca domestica

<400> 13

Met Thr Phe Leu Lys Gln Phe Ile Phe Arg Leu Lys Leu Cys Val Lys
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Cys Met Val Asn Lys Tyr Thr Asn Tyr Arg Leu Ser Thr Asn Glu Thr
20 25 30

Gln Ile Ile Asp Thr Glu Tyr Gly Gln Ile Lys Gly Val Lys Arg Met
35 40 45

Thr Val Tyr Asp Asp Ser Tyr Tyr Ser Phe Glu Ser Ile Pro Tyr Ala
50 55 60

Lys Pro Pro Val Gly Glu Leu Arg Phe Lys Ala Pro Gln Arg Pro Val
65 70 75 80

Pro Trp Glu Gly Val Arg Asp Cys Cys Gly Pro Ala Asn Arg Ser Val
85 90 95

Gln Thr Asp Phe Ile Ser Gly Lys Pro Thr Gly Ser Glu Asp Cys Leu
100 105 110

Tyr Leu Asn Val Tyr Thr Asn Asp Leu Asn Pro Asp Lys Arg Arg Pro
115 120 125

Val Met Val Phe Ile His Gly Gly Asp Phe Ile Phe Gly Glu Ala Asn
130 135 140

Arg Asn Trp Phe Gly Pro Asp Tyr Phe Met Lys Lys Pro Val Val Leu
145 150 155 160

Val Thr Val Gln Tyr Arg Leu Gly Val Leu Gly Phe Leu Ser Leu Lys
165 170 175

Ser Glu Asn Leu Asn Val Pro Gly Asn Ala Gly Leu Lys Asp Gln Val
180 185 190

Met Ala Leu Arg Trp Val Lys Ser Asn Ile Ala Ile Phe Gly Gly Asp
195 200 205

Val Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Gly Ala Ser Thr
210 215 220

His Tyr Met Met Ile Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
225 230 235 240

Ile Met Met Ser Gly Asn Ser Met Cys Ser Trp Ala Ser Thr Glu Cys
245 250 255

Gln Ser Arg Ala Leu Thr Met Ala Lys Arg Val Gly Tyr Lys Gly Glu
260 265 270

Asp Asn Glu Lys Asp Ile Leu Glu Phe Leu Met Lys Ala Asn Pro Tyr
275 280 285

Asp Leu Ile Lys Glu Glu Pro Gln Val Leu Thr Pro Glu Arg Met Gln
290 295 300

Asn Lys Val Met Phe Pro Phe Gly Pro Thr Val Glu Pro Tyr Gln Thr
305 310 315 320

Ala Asp Cys Val Val Pro Lys Pro Ile Arg Glu Met Val Lys Ser Ala
325 330 335

Trp Gly Asn Ser Ile Pro Thr Leu Ile Gly Asn Thr Ser Tyr Glu Gly
340 345 350

Leu Leu Ser Lys Ser Val Ala Lys Gln Tyr Pro Glu Val Val Lys Glu
355 360 365

Leu Glu Ser Cys Val Asn Tyr Val Pro Trp Glu Leu Ala Asp Ser Glu
370 375 380

Arg Ser Ala Pro Glu Thr Leu Glu Arg Ala Ala Ile Val Lys Lys Ala
385 . . . 390 395 400

His Val Asp Gly Glu Thr Pro Thr Leu Asp Asn Phe Met Glu Leu Cys
405 410 415

Ser Tyr Phe Tyr Phe Leu Phe Pro Met His Arg Phe Leu Gln Leu Arg
420 425 430

Phe Asn His Thr Ala Gly Thr Pro Ile Tyr Leu Tyr Arg Phe Asp Phe
435 440 445

Asp Ser Glu Glu Ile Ile Asn Pro Tyr Arg Ile Met Arg Phe Gly Arg
450 455 460

Gly Val Lys Gly Val Ser His Ala Asp Glu Leu Thr Tyr Leu Phe Trp
465 470 475 480

Asn Ile Leu Ser Lys Arg Leu Pro Lys Glu Ser Arg Glu Tyr Lys Thr
485 490 495

Ile Glu Arg Met Val Gly Ile Trp Thr Glu Phe Ala Thr Thr Gly Lys
500 505 510

Pro Tyr Ser Asn Asp Ile Ala Gly Met Glu Asn Leu Thr Trp Asp Pro
515 520 525

Ile Lys Lys Ser Asp Asp Val Tyr Lys Cys Leu Asn Ile Gly Asp Glu
530 535 540

Leu Lys Val Met Asp Leu Pro Glu Met Asp Lys Ile Lys Gln Gly Ala
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Ser Ile Phe Asp Lys Lys Glu Leu Phe
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<211> 1710
<212> DNA
<213> Musca domestica

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caaattaagg gtgttaagcg aatgaccgtc tacgtatgatt cttactacag tttcgagagt 180
ataccctatg ctaaggctcc agtggttag ttgagattca aggacccca gcggcctgta 240
ccatggagg gtgtacgtga ttgctgtgg ccagccaaca gatcggtaca gacagattc 300
ataagtggca aacccacagg ttcgaggat tgtctatacc tgaatgtgta taccaatgac 360
ttgaacccag acaaaaggcg tcctgttatg gtttcatcc atggcggaga ttttattttc 420
ggcgaagcaa atcgtaactg gtttgtccc gactactta tgaagaaacc cgtggcttg 480
gtaaccgtgc aatatcgtt gggtgtttg ggtttccta gcctgaaatc ggaaaatctc 540
aatgtccccg gcaacgctgg cctcaaggat caagtaatgg ctttggatg ggtcaagagt 600
aatattgcca ttttcggcgg cgtatgtac aatattaccg tcttcggcga aagtgcgtgt 660
ggggcctcaa cccattacat gatgataacc gaacagaccc gtggttatt ccatcggtgt 720
atcatgatgt ccgttaattc catgtgctca tgggcctcta cagaatgcca aagtgcgtcg 780
ctcaccatgg ccaaacgtgt tggctataag ggagaggaca atgaaaaaga tatcctggaa 840
ttcctaattga aagccaaatcc ctatgatttg atcaaagagg agccacaagt tttgacaccc 900

gaaagaatgc aaaataaggt catgttcct tttggaccca ctgtagaacc ataccagaca 960
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caatatccgg aggttgtaaa agagttggaa tcctgtgtga attatgtgc ttgggagttg 1140
gttgacagtg aacgcaagtgc cccggaaacc ctggagaggg ctgcccattgt gaaaaaggcc 1200
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gttggcatt ggacggaatt ccgcaccacc ggcaaaaccat acagcaatga tatagccggc 1560
atggaaaacc tcacctggta tcccataaaa aaatccgtat atgtctataa atgtttaat 1620
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agtatattcg ataaaaagaa ggaattgtt 1710

<210> 15

<211> 207

<212> PRT

<213> Musca domestica

<400> 15

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Tyr Leu Asn Val Tyr Thr Asn Asp Leu Asn Pro Asp Lys Lys Arg Pro
20 25 30

Val Met Val Phe Ile His Gly Gly Phe Ile Phe Gly Glu Ala Asn
35 40 45

Arg Asn Trp Tyr Gly Pro Asp Tyr Phe Met Lys Lys Pro Val Val Leu
50 55 60

Val Thr Val Gln Tyr Arg Leu Gly Val Leu Gly Phe Leu Ser Leu Lys
65 70 75 80

Ser Glu Asn Leu Asn Val Pro Gly Asn Ala Gly Leu Lys Asp Gln Val
85 90 95

Met Ala Leu Arg Trp Phe Lys Ser Asn Ile Ala Ile Phe Gly Gly Asp
100 105 110

Val Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Ala Ser Thr
115 120 125

His Tyr Met Met Ile Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
130 135 140

Ile Met Met Ser Gly Asn Ser Met Cys Ser Ser Ala Ser Thr Glu Cys
145 150 155 160

Gln Ser Arg Ala Leu Thr Met Ala Lys Arg Val Gly Tyr Lys Gly Glu
165 170 175

Glu Asn Glu Lys Asp Ile Leu Glu Phe Leu Met Lys Ala Asn Pro Tyr
180 185 190

Asp Leu Ile Lys Glu Glu Pro Gln Val Leu Thr Pro Glu Arg Met

195

200

205

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<213> *Lucilia cuprina*

<400> 16
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<210> 17
<211> 21
<212> DNA
<213> *Lucilia cuprina*

<400> 17
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<210> 18
<211> 21
<212> DNA
<213> *Lucilia cuprina*

<400> 18
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<210> 19
<211> 21
<212> DNA
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<400> 19
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<210> 20
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<400> 20
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<210> 22
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<210> 23
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<400> 23
tcccaaaacga tattgtatgt t 21

<210> 24
<211> 21
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<213> *Lucilia cuprina*

<400> 24
acatcatgtt gtgggttagaa g 21

<210> 25
<211> 21
<212> DNA
<213> *Lucilia cuprina*

<400> 25
ccgaggatgt ttgggttaaga c 21

<210> 26
<211> 21
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<213> *Lucilia cuprina*

<400> 26
tatcagctgt tggtgtttct c 21

<210> 27
<211> 21
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<213> *Lucilia cuprina*

<400> 27
aegcgattct ttaggcatac g 21

<210> 28
<211> 21
<212> DNA
<213> *Lucilia cuprina*

<400> 28
tgcgtgcctct acccactaca t 21

<210> 29
<211> 21
<212> DNA
<213> *Lucilia cuprina*

<400> 29
cctgtggctt ggctttcata a 21

<210> 30

<211> 35
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<213> Artificial Sequence

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<222> (21)
<223> i

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<221> modified_base
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<220>
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<223> i

<400> 30
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<210> 31
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<220>
<223> Description of Artificial Sequence: Degenerate Primer

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<210> i
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<213> i

<400> 31
acytgrtbyt tnarnccngc rttnccnngn ac 32

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<211> 32
<212> DNA
<213> Musca domestica

<400> 32
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<210> 33
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<212> DNA
<213> Musca domestica

<400> 33
tgcacttat gaaatctgtc tgta 24

<210> 34
<211> 24
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<213> Musca domestica

<400> 34
tacatgatga taaccgaaca gacc 24

<210> 35
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<400> 35
tcgattattt gggtttcatt tgt 23

<210> 36
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<400> 42	21
gqcatggaaa acctcacctg g	
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<213> Lucilia cuprina	
<400> 43	
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Tyr Leu Ser Val Tyr Thr Asn Asn Leu Asn Pro Glu Thr Lys Arg Pro
20 25 30

Val Leu Val Tyr Ile His Gly Gly Gly Phe Ile Ile Gly Glu Asn His
35 40 45

Arg Asp Met Tyr Gly Pro Asp Tyr Phe Ile Lys Lys Asp Val Val Leu
50 55 60

Ile Asn Ile Gln Tyr Arg Leu Gly Ala Leu Gly Phe Leu Ser Leu Asn
65 70 75 80

Ser Glu Asp Leu Asn Val Pro Gly Asn Ala Gly Leu Lys Asp Gln Val
85 90 95

Met Ala Leu Arg Trp Ile Lys Asn Asn Cys Ala Asn Phe Gly Gly Asn
100 105 110

Pro Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Ala Ala Ser Thr
115 120 125

His Tyr Met Met Leu Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
130 135 140

Ile Leu Met Ser Gly Asn Ala Ile Cys Pro Leu Ala Asn Thr Gln Cys
145 150 155 160

Gln His Arg Ala Phe Thr Leu Ala Lys Leu Ala Gly Tyr Lys Gly Glu
165 170 175

Asp Asn Asp Lys Asp Val Leu Glu Phe Leu Met Lys Ala Lys Pro Gln
180 185 190

Asp Leu Ile Lys Leu Glu Glu Lys Val Leu Thr Leu Glu Glu Arg
195 200 205